

# STONE CONSTRUCTION ENTRANCE

1. SET POSTS AND EXCAVATE A TRENCH OF APPROXIMATELY 12" ALONG THE LINE OF POSTS.

2. STAKE WIRE FENCING TO THE POSTS.

3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.

4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

5. FLOW

EXTENSION OF FABRIC AND WIRE INTO THE TRENCH.

FILTER FABRIC

*CONSTRUCTION OF A SILT FENCE  
(WITH WIRE SUPPORT)*

Diagram illustrating the optional stone combination for silt fence construction. The diagram shows a cross-section of the silt fence structure, including the stone layer, filter fabric, and the surrounding soil. Key dimensions and components are labeled: 1.5' MAX. for the stone layer height, 1.0' for the filter fabric width, 1.5' for the stone layer width, and 2.0' for the total width. The diagram also shows the flow direction (FLOW) and the location of the silt fence (SILT FENCE) relative to the toe of the fill (TOE OF FILL). A note indicates that the silt fence should be placed in a trench in the existing ground surface, and the trench should be 1.5' deep and 1.5' wide. A note also states that the silt fence should be placed in a trench in the existing ground surface, and the trench should be 1.5' deep and 1.5' wide.

The diagram illustrates a cross-section of a temporary diversion dike. A horizontal line at the top indicates the 'Flow' direction from left to right. The dike structure is composed of layers of 'Compacted Soil', represented by horizontal hatching. The dike has a height of 18' and a width of 4.5' at its base. A curved arrow indicates the flow path over the dike crest.

The drawing consists of two parts: a cross-section and a perspective view.

**Cross Section of Outlet:** This diagram shows a trapezoidal trap structure. The top width is 1.0', and the bottom width is 0.67'. The height is 1.0'. The structure is composed of layers: a top layer of 'CLASS 1 RIPRAP', followed by 'COARSE AGGREGATE', and a bottom layer of 'CLASS 1 RIPRAP'. The bottom layer is labeled 'PERFORATED FILTER FABRIC (IN PLACE)'. The bottom width is also labeled '67 CL. TB./ACRE (EXCAVATED)'. The bottom layer is also labeled '4" MAX. FILTER CLOTH'. The bottom layer is also labeled 'ORIGINAL GROUND ELEV.'. The bottom layer is also labeled 'VARIABLE'.

**Perspective View:** This diagram shows the trap structure from a three-dimensional perspective. It is labeled 'TEMPORARY SEDIMENT TRAP' at the top. The structure is composed of layers: a top layer of 'CLASS 1 RIPRAP', followed by 'COARSE AGGREGATE', and a bottom layer of 'CLASS 1 RIPRAP'. The bottom layer is labeled 'PERFORATED FILTER FABRIC (IN PLACE)'. The bottom layer is also labeled '4" MAX. FILTER CLOTH'. The bottom layer is also labeled 'ORIGINAL GROUND ELEV.'. The bottom layer is also labeled 'VARIABLE'.

**Labels and Dimensions:**

- ORIGINAL GROUND ELEV.
- 67 CL. TB./ACRE
- 67 CL. TB./ACRE (EXCAVATED)
- 4" MAX. FILTER CLOTH
- COARSE AGGREGATE
- CLASS 1 RIPRAP
- PERFORATED FILTER FABRIC (IN PLACE)
- 1.0'
- 0.67'
- VARIABLE
- TEMPORARY SEDIMENT TRAP
- COARSE AGGREGATE SHALL BE VDOT #3, #357 OR #5 OUTLET (PERSPECTIVE VIEW)

[illegible]

# ANTI-VORTEX DEVICE DESIGN

The drawing consists of three views: Plan View, Section A-A, and Isometric. The Plan View shows a circular top with eight pressure relief holes, each 1/2 inch in diameter. Arrows indicate flow direction. The Section A-A view shows a cross-section of the device, which is 54 inches in diameter and 17 inches high. It features 14 gauge corrugated metal or 1/8 inch steel plate. The top is fully open. The bottom is attached to a support bar size of #6 rebar (minimum). The device is welded all around the top and bottom. The isometric view shows the device from a three-dimensional perspective, highlighting the corrugated metal construction and the welded joints.

PLAN VIEW

SECTION A-A

ISOMETRIC

NOTES:

1. THE CYLINDER MUST BE FIRMLY FASTENED TO THE TOP OF THE RISER.
2. SUPPORT BARS ARE WELDED TO THE TOP OF THE RISER OR ATTACHED BY STRAPS BOLTED TO TOP OF RISER.

TOP IS 14 GAUGE CORRUGATED METAL OR 1/8" STEEL PLATE. PRESSURE RELIEF HOLES MAY BE OMITTED IF ENDS OR CORRUGATIONS ARE LEFT FULLY OPEN WHEN THE TOP IS ATTACHED.

CYLINDER IS 14 GAGE CORRUGATED METAL PIPE OR FABRICATED FROM 1/8" STEEL PLATE.

USDA-SCS

PLATE. 3.14-10

*RISE PIPE BASE CONDITIONS  
FOR EMBANKMENTS LESS  
THAN 10' HIGH*

CONCRETE BASE FOR EMBANKMENT 10' OR LESS IN HEIGHT

STEEL BASE FOR EMBANKMENT 10' OR LESS IN HEIGHT

SOURCE: VA. DSWC

PLATE. 3.14-14

# PIPE OUTLET CONDITIONS

The image contains two sets of technical drawings, each consisting of a Plan View and a Section A-A.

**Top Set: PIPE OUTLET TO MAINT CHANNEL**

- Plan View:** Shows a trapezoidal channel with a central pipe outlet. The outlet has a top width of  $3d_o$  and a bottom width of  $d_o$ . The channel bottom width is  $d$ . The outlet is centered within the channel.
- Section A-A:** Shows a cross-section of the outlet. The outlet is a cylinder with diameter  $d_o$  and height  $L_a$ . The channel bottom is at a depth  $d$  from the outlet base. The outlet is labeled "PIPE OUTLET TO MAINT CHANNEL".

**Bottom Set: PIPE OUTLET TO WELD DEFINED CHANNEL**

- Plan View:** Shows a trapezoidal channel with a central pipe outlet. The outlet has a top width of  $3d_o$  and a bottom width of  $d_o$ . The channel bottom width is  $d$ . The outlet is centered within the channel.
- Section A-A:** Shows a cross-section of the outlet. The outlet is a cylinder with diameter  $d_o$  and height  $L_a$ . The channel bottom is at a depth  $d$  from the outlet base. The outlet is labeled "PIPE OUTLET TO WELD DEFINED CHANNEL".

**NOTES:**

1. AROUND LANDING MAY BE REMOVED, GOVERNED BY THE SPACING
2.  $L_a$  IS THE LENGTH OF THE REINFORCING BAR, AS CALCULATED
3.  $d = 1/2$  TIMES THE MAXIMUM FLOW DIAMETER, NOT WAY

**LESS THAN 6 INCHES**

**Source: VA, DSWC**

**Plate 318-1**

The diagram illustrates the design of a rock check dam. The top portion is a cross-sectional view showing a trapezoidal structure with a sloped upstream face (left) and a vertical downstream face (right). The structure is composed of a core of coarse aggregate, labeled 'COARSE AGGREGATE', which is covered by a layer of 'FILTER CLOTH (OPTIONAL)'. The upstream face is labeled 'WOOL #1'. The downstream face is labeled 'DOWNSTREAM VIB'. The height of the dam is indicated by 'H' and the width of the base by 'B'. The bottom portion is a plan view showing the dam's footprint. It is a trapezoid with a sloped upstream face (left) and a vertical downstream face (right). The upstream face is labeled 'FLOW'. The width of the dam at the base is indicated by 'B' and the width of the upstream face by 'B<sub>u</sub>'. The area of the dam is labeled '2-10 ACRES OF DRAINAGE AREA'.